

REMARKS

No claims having been cancelled, claim 6 having been amended, and new claims 10-14 having been added, the Applicants respectfully contend that claims 1-14 are properly under consideration in this application. The above listing of the claims shows all currently active claims and their status. Entry of the amendments and reconsideration of the application in light of the amendments and the following remarks are respectfully requested.

The Applicants note with appreciation the Examiner's indication that all of the certified copies of the priority documents have been received.

Rejections under 35 U.S.C. § 102(b)

Claims 6 and 7 stand rejected as anticipated by Akram et al.'s U.S. Patent No. 5,674,785 ("Akram"). The Applicants respectfully submit that this rejection is rendered moot by the amendment reflected above to claim 6.

As noted in the Action, the cited prior art does not disclose or fairly suggest, either singly or in combination, a semiconductor device or a method of making such a semiconductor device that includes a plurality of contact pads formed on the upper face of the board, and electrically connected to the solder bump pads; at least one chip having a plurality of bonding pads, disposed in the aperture; a plurality of bonding wires electrically connecting the bonding pads to the board pads, at least one end of the bonding wires being bonded to the bonding pads or the board pads by wedge bonding; an encapsulation part provided on the lower surface of the board for encapsulating the at least one chip, the plurality of bonding wires and the plurality of board pads; and a plurality of solder bumps formed on the plurality of solder bump pads. Action at 3.

The Applicants respectfully contend that the amendment to claim 6 reflected above requires the presence of a plurality of contact pads formed on the upper surface of the board and electrically connected to the solder bump pads formed on the lower surface of the board and thus distinguishes the claim over the cited prior art. The Applicants

respectfully submit, therefore, that claim 6, and each of the claims that depend therefrom, claims 7-9, are now in condition for allowance.

New Claims 10-14

The Applicants respectfully contend that new claims 10-14 further define a method of manufacturing of a semiconductor device generally along the lines of claim 6 while introducing claim language directed to specific structural features reflected in FIGS. 1-3 of the present application. The Applicants respectfully contend that claims 10-14, like claims 6-9, are allowable over the cited references. In particular, the Applicants note that, unlike Akram, the method of claims 10-14 requires that the aperture exposes substantially all of the active surface of the semiconductor chip, rather than small central or peripheral regions. Akram's FIGS. 1 and 1A respectively. Further, claim 13 provides for the formation of conductive vias between the upper and lower surfaces of the board and claim 14 provides for bonding wires configured in a manner that excludes the conventional arching structure as illustrated throughout Akram's figures. The Applicants respectfully contend, therefore, that claims 10-14 are allowable over the cited prior art references.

Allowable Subject Matter

The Applicants note with appreciation the Examiner's indication that claims 1-5 are allowed as originally presented and that claims 8 and 9 were allowable if rewritten to remove their dependence from a rejected base claim. As detailed above, however, the Applicants respectfully submit that in light of the amendment to claim 6 indicated above, this claim is now allowable and the objections to claims 8 and 9 should be withdrawn accordingly.

CONCLUSION

In view of the above remarks and amendments, the Applicants respectfully submit that rejections have been addressed and overcome, leaving the present application in condition for allowance. A Notice to that effect is respectfully requested.

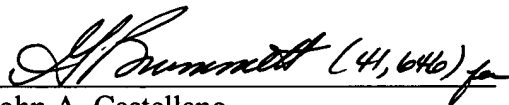
If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge any underpayment or non-payment of any fees required under 37 C.F.R. §§ 1.16 or 1.17, or credit any overpayment of such fees, to Deposit Account No. 08-0750, including, in particular, extension of time fees.

Very truly yours,

HARNESS, DICKEY & PIERCE, P.L.C.

By:


John A. Castellano
Reg. No. 35,094

P.O. Box 8910
Reston, VA 20195
(703) 668-8000

JAC/GPB:ymb